

# List of Tests



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No	Test
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*Physical Testing*

1	Count Or Denier Of Yarn (Woven Fabric)
2	Count Of Yarn After Removal Of Added Matter
3	Count Or Denier Of Yarn (Knitted Fabric)
4	Thread Density (Construction)
5	Weight Per Square Meter
6	Weight Per Linear Meter
7	Fibre Content
8	Fibre Identification
9	Fibre Content On Total Weight Of Socks
10	Fibre Length of Wool Fibre / Barbe & Hauteur (ISO 920)
11	Fibre Diameter (Wool) ISO 137
12	Blend Composition Of Whole Garment
13	Percentage Of Spun Yarn & Filament Yarn
14	Type of Weave
15	Width Of Fabric
16	Total No. of Ends In Fabric
17	Bowing / Skewness Of Fabrics
18	Spirality Of Knitted Fabric Or Garment (Side Seam Or AATCC 179)
19	Extent Of Seersucker Effect
20	Fabric Thickness In mm
21	Weight Of Weft Or Warp Yarn Per Sq. Meter
22	Average Yarn Number
23	Bending Length
24	Moisture Content (Oven Dry Basis)
25	Crease Recovery Angle Of Fabric
26	Twist Of Yarn (Each Yarn)
27	Crimp percentage
28	Type of Yarn - Carded or Combed (opinion only)
29	Tensile Strength : Grab Or Cut Strip Method. (ISO 13934-2; ASTM D 5034)
30	Tensile Strength : Ravelled Strip Method (ISO 13934-1 / ASTM D 5035)
31	Tensile Strength Of Glass Fabric
32	Tear Strength : Elmendorf Method (ISO 13937-1; ASTM D1424)
33	Tear Strength : Single Rip Method (ISO 13937-2; ASTM D2261; SIS 251231)
34	Tear Strength : Wing Rip Method (ISO 13937-3)
35	Bursting Strength Of Knitted Fabric Or Garment (ISO 13938-1, ASTM D3786)
36	Seam Slippage & Strength Of Garment (Existing Seam) ISO 13935-2
37	Seam Slippage & Strength Of Fabric (ISO 13936 / ISO 13935-1, ASTM D434 / 1683)
38	Pilling Resistance : ICI Pilling Box (ISO 12945-1)
39	Pilling Resistance : Martindale Tester ASTM D 4970
40	Abrasion Resistance (ISO 12947)
41	Abrasion Resistance ASTM D 4966

No	Test
42	Taber Abrasion ASTM D 4685 A
43	Flammability Before & After Washing / Dry-Cleaning (16 CFR 1610)
44	Flammability Of Carpets / Floor Coverings (FF 1-70 / FF 2-70)
45	Water Repellency Test : Spray Test (AATCC 22)
46	Water Permeability Test : Cone Test
47	Rain Test (AATCC 35)
48	Fabric Defect Analysis
49	Improvement Trials
50	Stretch & Recovery For Elastomeric Fabric (ASTM D2594 / D3107, BS 4294)
51	Button Impact Resistance Test
52	Button Compression Resistance
53	Snap Pull Off Test
54	Detachment Of Accessories
55	Unsnapping Of Snap Fasteners
56	Tuft Bind Strength (ASTM D 1335) for loop pile
57	Corrosion Test On Metal Accessories
58	Absorbency Test (AATCC 79)
59	Wicking Height (In House Method)
60	Security Of Fasteners / Accessories / Handles

***Dimensional Stability Tests***

1	Dimensional Stability to Washing
2	Thermal Shrinkage
3	Appearance After Washing Of Fabric Or Garment With Dimensional Stability
4	Dimensional Stability Of A Garment With Point To Point Measurement
5	Dimensional Stability To Steam
6	Dimensional Stability To Dry Cleaning
7	Thermal Stability Of Coated Fabrics (DIN 61536)

***Appearance Tests on Garments / Fabrics / Made-ups***

1	Garment Appearance On Laundering (AATCC 143)
2	Smoothness Appearance On Laundering (AATCC 124)
3	Crease Retention On Laundering (AATCC 88 C)
4	Seam Smoothness On Laundering (AATCC 88 B)
5	Wrinkle Recovery Of Fabrics : Crease Recovery (AATCC 66)
6	Appearance And Pile Loss Of Pile Fabric
7	Garment / Fabric Appearance To Dry Cleaning
8	Wrinkle Recovery (AATCC 128)
9	Visual Appearance of Fabric or Garment after one wash

No	Test
<i>Colourfastness Analysis</i>	
1	Colourfastness To Washing
7	Print Durability / Care Label Treatment
8	Colourfastness To Water (Contact Staining)
9	Colourfastness To Rubbing (Crocking), Dry & Wet
12	Colourfastness To Perspiration, Acidic & Alkaline
13	Colourfastness To Light (MBTF Lamp)
18	Colourfastness To Light (ISO 105 B02 or AATCC 16, Xenon Arc Lamp)
19	Colourfastness To Sea Water
20	Colourfastness To Chlorinated Water, ISO 105 / E03
21	Colourfastness To Chlorinated Pool Water, AATCC 162
22	Colourfastness To Chlorine Bleach
23	Colourfastness To Chlorine Bleach (Spot Test, Internal Method)
24	Colourfastness To Non Chlorine Bleach (AATCC 101), Hydrogen Peroxide
25	Colourfastness To Non Chlorine Bleach (AATCC 172), Clorox II
26	Colourfastness To Non Chlorine Bleach (Soak Test, Internal Method)
27	Colourfastness To Dry-Cleaning
28	Colourfastness To Wet Scrubbing
29	Colourfastness To Hot Pressing : ISO 105/X11 Or AATCC 133
30	Colourfastness To Autoclaving / Sterilizing
31	Colourfastness To Sublimation
32	Colourfastness To Migration On PVC : ISO 105/X10
33	Colourfastness To Rubbing Using Organic Solvents
34	Colourfastness To Rubbing Using Shampoo
35	Colourfastness : Dye Transfer In Storage
36	Colourfastness To Dry Heat (AATCC 117), Excl. Pressing.
37	Colourfastness To Saliva (DIN 53160)
38	Colourfastness To Washing With Oxidative Bleach ISO 105 C09
39	Colourfastness To Organic Solvents : ISO 105 / X05
40	Colourfastness To Water Spotting SS 251250
41	Colourfastness To Ozone, AATCC 109 / ISO 105 G03, 2 cycles
42	Resistance to staining by water SIS 832528
43	Sensitivity to Peroxy Compounds UK TE
44	Colourfastness to Mercerization ISO 105 X04
45	Phenolic Yellowing (ISO 105 X18)
46	Colourfastness to Actual Dry-cleaning
47	Colourfastness to Actual Washing, 40°C
48	Colourfastness to Potting ISO 105 E09
49	Colourfastness to Hot Water ISO 105 E08
50	Colourfastness to Water Migration ASTM D204

No	Test
<i>Eco Parameters Analysis</i>	
1	Analysis Of Banned Amines (TLC / GCMS Techniques)
2	Analysis Of Chlorinated Phenols - PCP, TeCP, OPP
7	Analysis Of Free Formaldehyde (ISO 14184 –1)
8	Analysis of Free Formaldehyde, DIN 53313, Process B (HPLC method)
9	Analysis Of Released Formaldehyde (ISO 14184-2 / AATCC 112)
10	Analysis Of Polychlorinated Biphenyls (PCB)
11	pH Value (ISO 3071 / AATCC 81)
12	Nickel In Accessories Extended Wear Test (EN 1811/12472)
13	Nickel in Accessories - Qualitative test (EN 12471)
14	Presence of Extractable Heavy Metals
15	Presence Of Heavy Metals as per EN 71 part 3
16	Presence Of Single Extractable Heavy Metal on Fabric
17	Presence Of Total Heavy Metals (Microwave Digestion, AAS detection)
20	Presence of Lindane - extraction / GCMS
21	Analysis For The Presence Of Chloro Organic Compounds
22	Analysis for the presence of Chlorinated Organic Carriers
23	Presence Of Residual Pesticides
24	Panel Odour Test
25	Presence Of BHT In Polybags
26	Lead Content In Accessories
27	Presence Of Organotin compounds
28	Analysis Of Allergenic Dyestuffs (TLC / HPLC)
30	Presence of NPEOs / OPEOs
31	Presence of Adsorbable Organic Halogens (AOX)
32	Presence of Triclosan
33	Presence of Phthalates - GCMS

*Chemical Parameter Analysis*

1	Identification Of Dye Or Print (Per Colour)
2	Test For Mercerization (Barium Activity Number)
3	Total Size On Fabric
4	Scouring Loss (Desizing)
5	Ash Content
6	Wax Content
7	Identification Of Stains And Removal
8	Corrosion Resistance Of Metal Accessories
9	Total Extractables (%) AATCC 97
10	Oil Repellency – Hydrocarbon Resistance (AATCC 118)
11	Soil Release (Oily Stain) AATCC 130
12	Residual Chlorine Content in Fabrics (APHA 4500-Cl G)
13	Oligomer Content in Polyester
14	Presence of PVC – FTIR *

No	Test
15	Degree of Polymerization IS:244
16	Antibacterial activity AATCC 147 *
17	Antibacterial activity AATCC 100 *

*\* Tests subcontracted*

***Tests for Surgical Cotton***

1	Package test
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***Analysis of Elastic Tape***

1	Modulus at specified elongation
2	Residual Extension
3	Residual Extension after ageing
4	Thickness in mm
5	Weight per linear meter
6	Width of tape
7	Denier of Filament Yarn
8	Denier of Rubber
9	Construction in full width
10	Total Fibre Content
11	Breaking strength of Rubber
12	Stretch & Recovery (ASTM D 4964, BS 4952)

***Analysis of Socks***

1	Elongation of Elastic Yarn
2	Tenacity
3	Weight per pair

***Accessories Testing***

1	Impact Test for Buttons
2	Corrosion of metallic accessories
3	Compression Test for Buttons
4	Snap Action Test
5	Unsnapping of snaps ASTM D 4846
6	Button / Snap Pull off Test
7	Bite Test for buttons
8	Security of Handles and embellishments

No	Test
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***Analysis of Towels***

1	Count of Warp, Weft & Pile Yarns
2	Construction : Warp Weft & Pile
3	Terry Ratio : Warp to Pile length measurement
4	Pile Height
5	Absorbency Test (AATCC 79)
6	Absorbency Test as submitted and after one wash
7	Surface Water Absorption ASTM D 4772

***Analysis of Fusible Interlining***

1	Dimensional Stability at 40°C
2	Peel Bond Strength before laundering
3	Peel Bond Strength after laundering

***Analysis of Oven Gloves / Mittens / Pot Holders***

1	Testing as per BS 6526 Appendix A
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***Analysis of Zippers***

1	Set of Tests as per ASTM D 2061-93. Includes :
2	Set of tests as per BS 3084-1992.
3	Individual Test
4	Reciprocating Test
5	Tab Twist Test 16 CFR 1500

***Analysis of Yarn***

1	Yarn count
2	Yarn denier
3	Count with CV %
4	Lea Breaking Strength
5	Lea Breaking strength with CV %
6	Count Strength Product (CSP) of spun yarn
7	ASTM Appearance Grade
8	Number of filaments
9	Oil Percentage
10	Test for Mercerization (Barium Activity Number)
11	Twist per inch (TPI) : per ply
12	Blend Composition (upto two fibres)
13	each additional Fibre
14	Total Size on Yarn
15	Yarn Multiplier
16	Fibre Length of Wool Fibre / Barbe & Hauteur (ISO 920)
17	Fibre Diameter (Wool) ISO 137

No	Test
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***Special Analysis for Wool (as per IWS procedures)***

1	DCM Extract (TM 136)
2	Cover Factor
3	Relaxation Shrinkage (TM 31)
4	Relaxation and Felting Shrinkage (TM 31)

***Spectrophotometric Evaluation***

1	Colour Measurement
2	Shade variation on fabric
3	Whiteness Index
4	Soil Removal efficiency Trials (per set of parameters)

**Analysis of Textile Auxiliaries and Chemicals**

***General Tests***

1	Solid Content
2	Active Content
3	Application Test
4	Efficiency of Desizing Agent
5	Wetting Power of Wetting Agent
6	Efficiency of Scouring Agent
7	Wetting Efficiency of mercerizing auxiliaries
8	Active Oil Content in silicone oil emulsions
9	Strength of Acetic Acid
10	Strength of Formaldehyde
11	Strength of Hydrogen Peroxide
12	Strength of Sulphuric Acid
13	Strength of Glyoxal
14	Strength of ETDA Solution (Chellating Value)
15	Strength of Fast Base : Volumetric Analysis
16	Strength of Naphthol : Gravimetric Analysis
17	Purity of Sodium Acetate
18	Purity of Caustic Lye
19	Purity of Glauber Salt
20	Purity of Oxalic Acid
21	Purity of Soda Ash
22	Purity of Sodium Hydrosulphite
23	Purity of Rongalite
24	Purity of Sodium Chlorite
25	Purity of Titanium Oxide



No	Test
26	Purity of Resist Salt
27	Sodium Silicate (Na <sub>2</sub> O <sub>2</sub> / SiO <sub>2</sub> ) ratio
28	Purity of Ferrous Sulphate
29	% PVA
30	Qualitative Test for Starch
31	Total Water Analysis for textile processing
32	Water Analysis for total hardness as CaCO <sub>3</sub>
33	Oil Acid Value
34	Oil Sap Value
35	Surface Tension of Surface active agent
36	Ionic Nature
37	Cloud Point
38	Available chlorine in soda bleach
39	Melting Point of Substances
40	Total Fatty Matter
41	Evaluation of Reactive Dyes by printing
42	Retarding Efficiency of Retarding agents
43	Defoaming efficiency of Defoaming agents
44	Flash Point
45	Foam Height of auxiliaries
46	Moisture Content (Dean & Stark Method)
47	Amine value in amino-silicone oil
48	pH of 1 % solution

***Analysis of Printing Binders / Fixers***

1	Application test, per colour, with Printing Test and colourfastness to washing, rubbing and wet scrubbing
2	Solid Content
3	Active Content

***Analysis of Printing Gums (using Reactive Dyes)***

1	Reactive Printing Trials (per colour)
2	Moisture Content
3	Ash Content
4	Viscosity of 1.0% solution (Redwood Viscometer)

***Analysis of Optical Brighteners***

1	Evaluation by application on Cotton
2	Evaluation by application on Polyester
3	Evaluation by titration method

No	Test
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***Analysis of Dye Fixing Agents***

1	Evaluation of efficiency by application (computer evaluation)
2	Evaluation of purity by titration

***Analysis of DMDHEU type of Resin***

1	pH of Submitted Sample
2	Solid Content
3	Free Formaldehyde by titration
4	Total Formaldehyde by titration
5	Active DMDHEU content
6	Specific gravity
7	Crease recovery angle on application

***Analysis of Detergents***

1	Efficiency of Soil Removal on standard soiled fabric ( one set of parameters)
2	Grease / Oil Stain removal on polyester or cotton
3	Effect on Coloured Fabric (Shade Change) : 2 colours
4	Anti Soil redeposition properties, based on AATCC 151